CLAIMS

1. A method for determining the presence or risk of a nasopharyngeal carcinoma (NPC) in an individual, comprising the steps of

(a) obtaining expression products from a nasopharyngeal cell obtained from said individual suspected of having or at risk of having NPC;

(b) contacting said expression products with one or more binding members capable of binding to expression products or one or more genes identified in Table I; and

(c) determining the presence or risk of NPC in said patient based on the binding of the expression products from said nasopharyngeal cell to the one or more binding members.

2. A method for determining the type of nasopharyngeal carcinoma (NPC) in an individual, comprising the steps of

(a) obtaining expression products from a nasopharyngeal cell obtained from said individual suspected of having or at risk of having NPC;

(b) contacting said expression products with one or more binding members capable of binding to expression products or one or more genes identified in Table I; and

(c) determining the type of NPC in said patient based on the binding of the expression products from said nasopharyngeal cell to the one or more binding members.

3. A method according to claim 1 or claim 2 wherein the expression product is a transcribed nucleic acid sequence.

4. A method according to claim 3 wherein the

transcribed nucleic acid sequence is RNA, mRNA or cDNA produced from mRNA.

5. A method according to any one of the preceding claims wherein the binding member is a nucleic acid sequence capable of specifically binding to the transcribed nucleic acid sequence.

6. A method according to claim 1 or claim 2 wherein the expression product is an expressed polypeptide.

7. A method according to claim 6 wherein the binding member is an antibody, or a substance comprising an antibody binding domain, which is capable of specifically binding said expressed polypeptide.

8. A method according to any one of the preceding claims wherein the binding member is labelled for detection purposes.

9. A method according to any one of the preceding claims wherein the one or more binding members are fixed to a solid support.

10. A method according to any one of claims 1 to 8 comprising fixing the expression products to a solid support.

11. A method of creating an expression profile characteristic of NPC, or a particular type of NPC, said method comprising the steps of

(a) obtaining expression products from a NPC cell obtained from an individual;

(b) contacting said expression products with a plurality of binding members capable of specifically binding to expression products of one or more genes identified in Table I;

(c) determining the binding of said expression products with the binding members so as to create an expression profile characteristic of the NPC cell.

12. A method of creating an expression profile characteristic of NPC, or a particular type of NPC, said method comprising the steps of

(a) obtaining expression products from a NPC cell and expression products from a normal nasopharyngeal cell;

(b) contacting said expression products of said NPC cell and said normal cell respectively with a plurality of binding members capable of specifically binding to expression products of one or more genes identified in Table I;

(c) comparing the expression profile of the NPC cell and the normal cell; and

(d) determining an expression profile characteristic of the NPC cell.

13. A method according to claim 11 or claim 12 wherein the expression product is a transcribed nucleic acid sequence.

14. A method according to claim 13 wherein the transcribed nucleic acid sequence is RNA, mRNA or cDNA produced from mRNA.

15. A method according to any one of claims 11 to 14

wherein the binding member is a nucleic acid sequence capable of specifically binding to the transcribed nucleic acid sequence.

16. A method according to claim 11 or claim 12 wherein the expression product is an expressed polypeptide.

17. A method according to claim 16 wherein the binding member is an antibody, or a substance comprising an antibody binding domain, which is capable of specifically binding said expressed polypeptide.

18. A method according to any one of claims 11 to 17 wherein the binding member is labelled for detection purposes.

19. A method according to any one of claims any one of 11 to 18 wherein the one or more binding members are fixed to a solid support.

20. A method according to any one of claims 11 to 18 further comprising fixing the expression products to a solid support.

21. A diagnostic reagent comprising a solid support on to which is fixed one or more binding members capable of specifically binding to an expression product of one or more genes identified in Table I.

22. A diagnostic reagent according to claim 21 wherein the one or more binding members include a binding member capable of specifically binding to an expression product of H19 or CDKNIC.

23. A diagnostic reagent according to claim 21 or claim 22 wherein the expression products are mRNA or the resulting protein product.

24. A kit for determining the presence or type of NPC in a biological sample, said kit comprising a diagnostic reagent according to any one of claims 21 to 23 and a detection means.

25. A kit according to claim 24 wherein the biological sample is cell extract.

26. A kit according to claim 24 or claim 25 wherein the detection means is a label that detects when a binding member has bound to an expression product.

27. Use of a demethylation agent in the preparation of a medicament for treating an individual with or at risk from NPC, said treatment being in association with a second cancer treatment.

28. Use according to claim 27 wherein the second cancer treatment is chemo or radiotherapy.

29. Use according to claim 27 or claim 28 wherein the demethylation agent is 5'aza-2'-deoxycytidine.

30. Use according to any one of claims 27 to 29 wherein the NPC is type I.

31. A method for treating an individual with or at risk from NPC comprising administering to said individual a

demethylation agent in association with a second cancer treatment.

32. A method according to claim 31 wherein the second cancer treatment is chemo or radiotherapy.

33. A method according to claim 31 or claim 32 wherein the demethylation agent is 5'aza-2'-deoxycytidine.

34. A method according to any one of claims 31 to 33 wherein the NPC is type I.

35. A method of screening for substances capable of treating NPC in an individual said method comprising

(a) over-expressing in a cell one or more genes identified in Table I;

(b) contacting said cell with a test substance;

(c) determining the effect of said test substance on said cell as compared to the effect of said test substance on a comparable cell absent of the over-expression of said one or more genes; and

(d) identifying said test substance as a substance capable of treating NPC.

36. A method according to claim 35 wherein the one or more genes are over-expressed by inserting into said cell nucleic acid capable of expressing expression products characteristic of said genes.

37. A method according to claim 35 or claim 36 wherein said one or more genes are up-regulated in differentiated NPC.

38. A method according to claim 35 or claim 36 wherein said one or more genes are up-regulated in undifferentiated NPC.

39. A method according to claim 38 wherein the one or more genes include H19 and CDKNIC.

40. A method according to any one of claims 35 to 39 further comprising treating the cell over-expressing the one or more genes identified in Table I with a demethylation agent.

41. A method according to claim 35 wherein the cell over-expressing one or more genes identified in Table I is an NPC cell.

42. A method according to any one of claims 35 to 41 further comprising the step of producing a pharmaceutical composition comprising the substance identified in step (d).